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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,798

12/29/2005

Toru Maeda

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EXAMINER

HARRIS, GARY D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,798	Applicant(s) MAEDA ET AL.	
	Examiner GARY D. HARRIS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The amendments to the specification filed on 1/10/08 are approved by examiner. Additionally, claims 8 & 16 now have proper status identification.

Response to Arguments

Applicant's arguments filed 8/28/07 have been fully considered but they are not persuasive. Regarding the 103 rejection over Moorhead US 5,935,722, at pages 6-8 of the response, applicant states the following:

Applicant admits that a small portion of the powder layer would be bonded to the inorganic bonding media. Examiner takes the position that some of the particles at the interface would meet applicant's claim.

Applicant states that Moorhead '722 does not disclose the lower film surrounding the surface of said magnetic particle having an insulating upper film and an affinity for oxygen and carbon in the upper film. This is not deemed persuasive as applicant is claiming a nonferrous metal with an affinity for oxygen and carbon, but does not state in the claim the nature of the attraction. That is whether this affinity was a cohesive, adhesive, magnetic and/or van der Waals attraction. Moorhead clearly recognizes that the metal may consist of an oxide completely surrounding the powder (Col. 2, Line 7-8), the attractive nature of such protective layers on a core structure (Col. 3, Line 55-58),

Art Unit: 1794

the use and densification of interlaminar insulation layers from ceramic, glass, glass-ceramic or mixture (Col. 4, Line 22-26) and finally the use of a plastic coating on the oxide layer (Col. 10, Line 9-17). Because these materials are densified utilizing HIP (hot isostatic pressing) similar to applicant's pressure-forming at temperatures not less than 500C they would necessarily be expected to have similar affinities.

For convenience the rejection is substantially repeated below:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moorhead et al. US 5,935,722.

As to Claim 1 & 9, Moorhead '722 discloses the use of multilayered soft magnetic materials including ferrous and nonferrous alloys (Col. 1, Line 25-67) and a preferable magnetic alloy when a composite is to be used for a magnetic core (Col. 3, Line 41-43). An insulation layer which may consist of an oxide layer (oxygen) on the metal plus an organic adhesive (carbon) (Col. 2, Line 4-12). Moorhead '722 does not disclose affinities for nonferrous and/or ferrous metals. However, these properties are inherent because the applicants and Moorhead '722 teach virtually identical structures

Art Unit: 1794

with similar materials. Moorhead '722 recognizes that the metal may consist of an oxide completely surrounding the powder (Col. 2, Line 7-8), the attractive nature of such protective layers on a core structure (Col. 3, Line 55-58), the use and densification of interlaminar insulation layers from ceramic, glass, glass-ceramic or mixture (Col. 4, Line 22-26) and finally the use of a plastic coating on the oxide layer (Col. 10, Line 9-17). Because these materials are densified utilizing HIP (hot isostatic pressing) similar to applicant's pressure-forming at temperatures not less than 500C they would necessarily be expected to have similar affinities. One of ordinary skill would expect the same affinities as similar materials are treated by a similar process.

As to Claim 2 & 10, Moorhead '722 discloses the use of, chromium, vanadium, and nickel based titanium alloys (Inconel) (Col. 5, Line 8-16) and aluminum (Col. 5, Line 54-63).

As to Claim 4 & 12, Moorhead '722 discloses a low carbon iron silicone steel (Col. 1, Line 50-54) and the use of zirconium (Col. 5, Line 41-54).

As to Claim 6 & 14, Moorhead '722 discloses chemically treating metal particles to produce an insulating oxide layer and the use of polymers in dust cores (Col. 10, Line 8-25).

As to Claim 7 & 15, Moorhead '722 discloses the use of organic adhesives (polymers) including epoxies and polyimides (Col. 2, Line 48-54).

Claims 3, 5, 11, & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moorhead et al. US 5,935,722 as applied to claims above, and further in view of Ochiai et al. US 4,919,734.

As to Claim 3 & 11, Moorhead '722 discloses the oxide layer but does not cite the particular thicknesses. However, Ochiai '734 discloses that as the particles are reduced an oxide layer of several ten's of nanometers is formed on the surface of each particle (Col. 3, Line 4-8).

As to Claim 5 & 13, Moorhead '722 discloses a metal alkoxide and/or its decomposition film on the surface magnetic powder thickness of the insulation layer is 10 microns or less (Col. 7, Line 35-40).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1794

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY D. HARRIS whose telephone number is (571)272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith D. Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Holly Rickman/
Primary Examiner, Art Unit 1794
For Gary Harris